

**PATENT APPLICATION**

**RESPONSE UNDER 37 CFR §1.116  
EXPEDITED PROCEDURE  
TECHNOLOGY CENTER ART UNIT 2625**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Paul M. BUTTERFIELD et al.

Group Art Unit: 2625

Application No.: 10/758,099

Examiner: R. ZHU

Filed: January 16, 2004

Docket No.: 117435

For: SYSTEMS AND METHODS FOR SPECTROPHOTOMETRIC ASSESSMENT OF  
COLOR MISREGISTRATION IN AN IMAGE FORMING SYSTEM

**REQUEST FOR RECONSIDERATION AFTER FINAL REJECTION**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In reply to the October 4, 2007 Final Rejection, reconsideration of the rejection is respectfully requested in light of the following remarks. Claims 1-20 are pending.

Applicants thank Examiners Zhu and Poon for the courtesies extended to Applicants' representatives, Mr. Daniel Tucker and Ms. Tiffany Brooks, during the November 15 personal interview. The substance of the personal interview is incorporated into the remarks below.

The Office Action rejects claims 1-5, 7-17, 19 and 20 under 35 U.S.C. §103(a) over Castelli et al. (U.S. Patent No. 5,748,221) in view of Hubble III et al. (U.S. Patent No. 6,384,918), and claims 6 and 18 under 35 U.S.C. §103(a) over Castelli in view of Hubble III

and further in view of Uchida et al. (U.S. Patent No. 4,816,844). These rejections are respectfully traversed.

Regarding independent claims 1, 8 and 20, Applicants respectfully submit that Castelli, Hubble and Uchida, either alone or in combination, do not disclose or suggest at least determining if color misregistration has occurred based on a detected color value detected by the spectrophotometric analysis of the registration patch, as recited in independent claim 1, and similarly recited in independent claims 8 and 20.

As admitted by the Office Action on page 3, lines 4-5, Castelli does not disclose or suggest determining if color misregistration has occurred based on a detected color value detected by the spectrophotometric analysis of the registration patch. As agreed to during the September 17 and November 15 personal interviews, Castelli discloses detecting if misregistration has occurred by using the chevron mark technology and bi-cell detectors such as those disclosed in U.S. Patent No. 5,287,162. However, the '162 Patent merely determines if misregistration has occurred by scanning lines on a patch with photodiodes D1 and D2. See Fig. 3. Once scanned, the timing patterns of the photo diodes are compared to determine if misregistration has occurred in a certain direction. See Fig. 4. However, the '162 Patent does not at all determine if color misregistration has occurred based on a detected color value detected by the spectrophotometric analysis of the registration patch, but instead determines if misregistration has occurred based on timing patterns. Thus, Castelli does not disclose or suggest determining if color misregistration has occurred based on a detected color value detected by spectrophotometric analysis of the registration patch.

As discussed during the personal interview, Hubble fails to make up for the above-noted deficiencies of Castelli. Specifically, Hubble also does not disclose or suggest determining if color misregistration has occurred based on a detected color value detected by the spectrophotometric analysis of the registration patch. In fact, Hubble is not even remotely

directed to detecting if color misregistration has occurred. The word registration only appears three times in Hubble: twice (col. 3, line 53 and col. 6, line 12) with regard to the Castelli reference, which, as discussed above, does not disclose or suggest determining if color misregistration has occurred based on a detected color value detected by the spectrophotometric analysis of the registration patch, and once (col. 5, line 37), where Hubble actually distinguishes between color correction and/or color control systems and color registration systems. Here, Hubble says that color correction and/or color control systems should not be confused with color registration systems. However, Hubble is not directed to a color registration system but is instead directed to a color correction and/or color control system. See Title and Abstract.

Hubble discloses a spectrophotometer that is relatively insensitive to a variation in spacing between the spectrophotometer and the surface of the substrate whose color is being measured. See col. 1, lines 13-19. Further, Hubble discloses that paper may be moved along test sheet 30 as the spectrophotometer measures the color values. See col. 12, lines 32-39. In order to do this, Hubble discloses fiduciary marks 33 for determining when a sensor should begin reading the color patch. See col. 12, lines 46-47. These fiduciary marks are used to determine when to scan the test patches to determine the color of the test patches, and are not at all used to detect misregistration of the test patches. See col. 18, lines 10-19. Furthermore, Hubble discloses a color correction look-up table to correct color values. See col. 7, lines 27-30.

With the exception of two references to the Castelli patent, nowhere in the disclosure does Hubble disclose or suggest determining if color misregistration has occurred. Specifically, Hubble only discloses a spectrophotometer capable of printer color control, which, as discussed earlier, he distinguishes from a color registration system. Thus, Castelli

does not disclose or suggest determining if color misregistration has occurred based on a detected color value detected by the spectrophotometric analysis of the registration patch.

Furthermore, Applicants respectfully submit that Uchida does not make up for the above-noted deficiencies of Castelli and Hubble. Uchida is merely relied upon by the Office Action for an alleged teaching or disclosure of a registration patch with a line perpendicular to a direction of color misregistration. However, Uchida does not disclose or suggest determining if color misregistration has occurred based on a detected color value detected by the spectrophotometric analysis of the registration patch.

As discussed above, and repeatedly in personal interviews and in the remarks of responses to prior Office Actions, Castelli, Hubble and Uchida, either alone or in combination, do not disclose or suggest the subject matter recited in independent claims 1, 8 and 20. Claims 2-7 depend from claim 1, and claims 9-19 depend from claim 8. Thus, Castelli, Hubble and Uchida do not disclose or suggest the subject matter recited in claims 1-20. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 1-20 under 35 U.S.C. §103.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-20 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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JAO:DCT/dxc

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